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DICTIONARY FILE UPDATES:    1 OCT 2007  HIGHEST RN 948988-82-7

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FILE LAST UPDATED: 1 Oct 2007  (20071001/ED)

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> D QUE
L6          2117 SEA FILE=HCAPLUS ABB=ON  (TWO OR SECOND OR 2ND OR 2)(2A)POLYMER
                 ?(2A)LAYER?
L7          6696 SEA FILE=HCAPLUS ABB=ON  (MULTILAYER? OR BILAYER?)(2A)POLYMER?

L8          1030 SEA FILE=HCAPLUS ABB=ON  (ONE OR FIRST OR 1ST)(2A)POLYMER?(2A)L
                 AYER?
L9           559 SEA FILE=HCAPLUS ABB=ON  ((L6 AND L8) OR L7) AND METAL?(2A)?LAY
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                ER?
L11          66 SEA FILE=HCAPLUS ABB=ON  L9 AND (ANOD? OR ELECTRODE?)
L15          19 SEA FILE=HCAPLUS ABB=ON  L11 AND ELECTROCHEM?/SC,SX
L22         319 SEA FILE=HCAPLUS ABB=ON  L9 AND (PP OR POLYPROPYLENE OR PE OR
                POLYETHYLENE OR POLYAMIDE? OR POLYIMIDE? OR POLYOLEFIN? OR
                POLYESTER? OR POLYACETAL? OR POLYCARBONATE? OR POLYSULFON? OR
                PVC OR POLYVINYLCHLORIDE OR ETHYLENE(W)VINYL)
L23          24 SEA FILE=HCAPLUS ABB=ON  L22 AND (ANOD? OR ELECTRODE?)
L55           8 SEA FILE=HCAPLUS ABB=ON  L15 AND ELECTROCHEMICAL?/SC,SX
L56          24 SEA FILE=HCAPLUS ABB=ON  L23 OR L55


=> D L56 BIB ABS IND HITSTR 1-24

L56  ANSWER 1 OF 24  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN   2007:845915  HCAPLUS  Full-text
DN   147:201821
TI   Multilayer strip-line capacitor components for preventing electromagnetic
     wave leakage
IN   Masuda, Koichiro
PA   NEC Corporation, Japan
SO   PCT Int. Appl., 46pp.
     CODEN: PIXXD2
DT   Patent
LA   Japanese
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    --------------------   --------
PI   WO 2007086210        A1    20070802    WO 2006-JP325222       20061219
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN,
             KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK,
             MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO,
             RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT,
             TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM
PRAI JP 2006-15864        A     20060125
AB    The title capacitor components comprise multiple cylindrical metal pieces with
      different sizes, and the cylindrical metal pieces are disposed as multilayer
      around a strip-shaped metal piece.  Dielec. films and conductive layers are
      disposed between the innermost one of the multiple cylindrical metal pieces
      and the strip-shaped metal piece and they are between mutually adjacent
      cylindrical metal pieces.  The dielec. films and the conductive layers are
      also disposed as multilayer in sym. positional relations with respect to the
      side wall portions of the individual cylindrical metal pieces.
CC   76-10 (Electric Phenomena)
ST   multilayer strip line capacitor component electromagnetic wave leakage
     prevention
IT   Oxidation
        (anode; multilayer strip-line capacitor components for
        preventing electromagnetic wave leakage)
IT   Etching
        (capacitive component fabrication; multilayer strip-line capacitor
        components for preventing electromagnetic wave leakage)
IT   Dielectric films
```

(capacitor; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT Conducting **polymers**
(conducting layers; **multilayer** strip-line capacitor components for preventing electromagnetic wave leakage)

IT Lamination
(conductive layer, graphite, and Ag paste; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT Polyanilines
RL: TEM (Technical or engineered material use); USES (Uses)
(conductive **polymers; multilayer** strip-line capacitor components for preventing electromagnetic wave leakage)

IT Electric apparatus
(decoupling components; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT Films
(elec. conductive; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT Electric conductors
(films; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT Electromagnetic wave
(leakage prevention; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT Electromagnetic shields
Polymerization
Semiconductor device fabrication
(**multilayer** strip-line capacitor components for preventing electromagnetic wave leakage)

IT Capacitors
(multilayer, nonpolar, electrolytic; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT Films
(multilayer; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT Pastes
(silver, conducting layers; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT 11128-98-6, Ammonium borate
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(**anode** oxidation; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT 7782-42-5, Graphite, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(conducting layers; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT 126213-51-2, **Polyethylene** dioxy thiophene
RL: TEM (Technical or engineered material use); USES (Uses)
(conductive layer, doped with dodecyl benzene sulfonic acid; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT 25233-34-5, Polythiophene 30604-81-0, Polypyrrole
RL: TEM (Technical or engineered material use); USES (Uses)
(conductive **polymers; multilayer** strip-line capacitor components for preventing electromagnetic wave leakage)

IT 1344-28-1, Aluminum oxide, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(dielec. film; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT 27176-87-0, Dodecyl benzene sulfonic acid
RL: CAT (Catalyst use); MOA (Modifier or additive use); USES (Uses)
(dopant to **polyethylene** dioxy thiophene; multilayer strip-line capacitor components for preventing electromagnetic wave leakage)

IT 116-15-4, Hexafluoropropylene
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(mask **polymer; multilayer** strip-line capacitor components for preventing electromagnetic wave leakage)

IT 7429-90-5, Aluminum, uses 7440-03-1, Niobium, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**metal** pieces; **multilayer** strip-line capacitor components for preventing electromagnetic wave leakage)

IT 109-99-9, Tetrahydrofuran, uses
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(removing mask **polymer; multilayer** strip-line capacitor components for preventing electromagnetic wave leakage)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 2 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2007:750095 HCAPLUS Full-text
DN 147:147185
TI Method for manufacturing packaging structure for energy storage device
IN Wang, Fu-Min; Chiang, Pin-Chi; Wu, Mao-Sung; Lee, Chih-Tsung
PA Industrial Technology Research Institute of Taiwan, Taiwan
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 23pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1992375	A	20070704	CN 2005-10132981	20051231
PRAI	CN 2005-10132981		20051231		

AB The title method comprises providing a **first polymer layer**, electroplating a first **metal layer** on one side of the **first polymer layer**, providing a first adhesive layer on the first **metal layer**, and adhering a **second polymer layer** on the first adhesive layer. The first and second polymers can be same or different, and are selected from **polyethylene** terephthalate (PET), cast **polypropylene** (CPP) or oriented **polypropylene** (OPP). The method for manufacturing energy storage device further comprises placing pos. and neg. **electrode** plates and a diaphragm between two sheet of packaging structures, injecting electrolyte, vacuum-sealing the packaging structures by hot pressing, and activating. The inventive energy storage device has high flexibility, high functionality, and high safety.

CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 35, 59, 76
ST packaging structure energy storage device safety
IT Secondary batteries
(lithium; method for manufacturing packaging structure for energy storage device)
IT **Electrodeposition**
Electronic packaging process
Energy storage systems
Fuel cells

Safety
Secondary batteries
(method for manufacturing packaging structure for energy storage device)
IT Metals, uses
Polyesters, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(method for manufacturing packaging structure for energy storage device)
IT Electrolytic capacitors
(supercapacitors; method for manufacturing packaging structure for energy storage device)
IT 9003-07-0, **Polypropylene** 25038-59-9, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(method for manufacturing packaging structure for energy storage device)
IT 7439-93-2, Lithium, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(method for manufacturing packaging structure for energy storage device)

L56 ANSWER 3 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2007:415608 HCAPLUS Full-text
DN 146:465244
TI All-solid-state thin film lithium battery and its manufacture
IN Yu, Aishui; Wang, Weijiang; Wu, Haoqing
PA Fudan University, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 20pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1945881	A	20070411	CN 2006-10117899	20061102
PRAI	CN 2006-10117899		20061102		

AB The battery has a solid electrolyte film between a cathode film and an **anode** film, a collector film connected to the cathode film and the and the **anode** film, and a packaging material; wherein the cathode material is selected from LiCoO2, V2O5, or LiMn2O4; the **anode** material is selected from carbon material SnNx or Li; the solid electrolyte is LiPON, the collector connected to the cathode and the **anode** is a metal film, and the packaging material is a **metal/polymer** composite **multilayered** film. The battery is manufactured by cleaning a substrate, preparing a cathode collector by d.c. sputtering process with Au as target, preparing a cathode by radio frequency magnetron sputtering at a power of 100-500 W and a rate of 0.2-3 μ/h under 10-3-10-5 Pa in an oxygen gas atmospheric at a gas flow rate of 10-50 sccm, depositing a LiPON inorg. electrolyte on the cathode film by radio frequency sputtering in nitrogen gas to obtain a solid electrolyte, preparing an **anode** by vacuum depositing under 10-3-10-5Pa in argon gas, connecting a **metal layer** to the cathode and the **anode** by welding or metal sol, and sealing with the packaging film. A. The inventive batteries has stable interface between electrolytes and **electrodes**, good resistance to high temperature and pressure, high capacity and excellent cycle performance.
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
ST secondary lithium battery manuf solid electrolyte
IT Battery **electrodes**
Battery electrolytes
Secondary batteries
(structure and manufacture of all-solid-state secondary lithium batteries)
IT 1314-62-1, Vanadium oxide (V2O5), uses 7429-90-5, Aluminum, uses

7439-93-2, Lithium, uses 9002-88-4, **Polyethylene** 9003-07-0, **Polypropylene** 10377-52-3, Lithium phosphate 12057-17-9, Lithium manganese oxide (LiMn2O4) 12190-79-3, Cobalt lithium oxide (CoLiO2) 25722-33-2, Parylene 55574-97-5, Tin nitride 668998-68-3, Lithium phosphorus nitride oxide (LiPNO)
RL: TEM (Technical or engineered material use); USES (Uses)
(structure and manufacture of all-solid-state secondary lithium batteries)

L56 ANSWER 4 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2007:330364 HCAPLUS Full-text
DN 146:366616
TI Multilayered nanostructured films for catalyst supports of increased surface area
IN Debe, Mark K.; Ziegler, Raymond J.; Hendricks, Susan M.
PA 3M Innovative Properties Company, USA
SO PCT Int. Appl., 48pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2007032864	A2	20070322	WO 2006-US32703	20060823
	WO 2007032864	A3	20070510		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

PRAI US 2005-224879 A 20050913

AB Processes for forming films comprising multiple layers of nanostructured support elements are described. A 1st layer of nanostructured support elements is formed by depositing a base material on a substrate and annealing. Further growth of the 1st layer of nanostructures is then inhibited. Addnl. layers of nanostructured support elements may be grown on the 1st layer of nanostructures through addnl. deposition and annealing steps. The multilayer films provide increased surface area and are particularly useful in devices where catalyst activity is related to the surface area available to support catalyst particles.

IC ICM B82B
CC 67-2 (Catalysis, Reaction Kinetics, and Inorganic Reaction Mechanisms)
Section cross-reference(s): 9, **52**
ST multilayer nanostructure film catalyst support increased surface area
IT Porous materials
(catalyst substrates; multilayered nanostructured films for catalyst supports of increased surface area)
IT Printed circuit boards
(flexible; multilayered nanostructured films for catalyst supports of increased surface area)
IT Polyoxyalkylenes, uses
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(fluorine- and sulfo-containing, ionomers; multilayered nanostructured

films for catalyst supports of increased surface area)
IT Membranes, nonbiological
(ionic conducting; multilayered nanostructured films for catalyst supports of increased surface area)
IT Ionic conductors
(membranes; multilayered nanostructured films for catalyst supports of increased surface area)
IT Annealing
Catalyst supports
Coating process
Electrodes
Fuel cell **anodes**
Fuel cell cathodes
Fuel cell **electrodes**
Multilayers
Nanostructures
Optical filters
Photoelectric devices
Sensors
(multilayered nanostructured films for catalyst supports of increased surface area)
IT Acrylic **polymers**, uses
Metals, uses
Platinum-group **metals**
Polyimides, uses
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(**multilayered** nanostructured films for catalyst supports of increased surface area)
IT Films
(nanostructured; multilayered nanostructured films for catalyst supports of increased surface area)
IT Materials
(organic; multilayered nanostructured films for catalyst supports of increased surface area)
IT Fluoropolymers, uses
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(polyoxyalkylene-, sulfo-containing, ionomers; multilayered nanostructured films for catalyst supports of increased surface area)
IT Ionomers
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(polyoxyalkylenes, fluorine- and sulfo-containing; multilayered nanostructured films for catalyst supports of increased surface area)
IT Fuel cells
(proton exchange membrane; multilayered nanostructured films for catalyst supports of increased surface area)
IT 4948-15-6, Pigment Red 149 7440-06-4, Platinum, uses
RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(multilayered nanostructured films for catalyst supports of increased surface area)

L56 ANSWER 5 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2007:27938 HCAPLUS Full-text
DN 146:283394
TI Dry formation of polymer hole injection layer for top emitting organic light emitting diodes
AU Seo, Soon-min; Kim, Jong H.; Lee, Hong H.

CS School of Chemical and Biological Engineering, Seoul National University,
 Seoul, 151-742, S. Korea
SO Applied Physics Letters (2006), 89(25), 253515/1-253515/3
 CODEN: APPLAB; ISSN: 0003-6951
PB American Institute of Physics
DT Journal
LA English
AB Dry formation of polymer hole injection layer is introduced as an effective method for improving the performance of top emitting organic light emitting diodes (TOLEDs). This method involves transferring a **metal/polymer bilayer** to the surface of organic layers of the device by pressing. An added advantage of this method is the ability to pattern the **anode** in the transfer process. Fabrication of the inverted TOLED by this method results in a drastic reduction of the turn-on voltage, from 14.5 to 6.5 V, when compared with a reference
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 76
ST dry polymer hole injection top light emitting diode LED
IT Polyurethanes, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (acrylates, mold; dry formation of polymer hole injection layer for top emitting organic light emitting diodes)
IT Electric current-potential relationship
 Electroluminescent devices
 (dry formation of polymer hole injection layer for top emitting organic light emitting diodes)
IT **Polyesters**, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (dry formation of polymer hole injection layer for top emitting organic light emitting diodes)
IT Energy level
 (of layers for top emitting organic light emitting diodes)
IT 155090-83-8, PEDOT-PSS
 RL: TEM (Technical or engineered material use); USES (Uses)
 (**anode** coating; dry formation of polymer hole injection layer for top emitting organic light emitting diodes)
IT 7440-57-5, Gold, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (**anode**; dry formation of polymer hole injection layer for top emitting organic light emitting diodes)
IT 123847-85-8, NPB
 RL: TEM (Technical or engineered material use); USES (Uses)
 (bilayer film; dry formation of polymer hole injection layer for top emitting organic light emitting diodes)
IT 37626-13-4, AF 2400
 RL: TEM (Technical or engineered material use); USES (Uses)
 (coating; dry formation of polymer hole injection layer for top emitting organic light emitting diodes)
IT 2085-33-8, Alq3
 RL: TEM (Technical or engineered material use); USES (Uses)
 (dry formation of polymer hole injection layer for top emitting organic light emitting diodes)
IT 7429-90-5, Aluminum, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (**electrode**; dry formation of polymer hole injection layer for top emitting organic light emitting diodes)
IT 25038-59-9, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (mold; dry formation of polymer hole injection layer for top emitting

organic light emitting diodes)
RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 6 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:944702 HCAPLUS Full-text
DN 145:343851
TI Multilayer protection film for rust prevention of metal materials
IN Nakamura, Noboru; Uchida, Nobuhiko
PA Kyocera Chemical Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 10pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2006241512	A	20060914	JP 2005-58175	20050302
PRAI	JP 2005-58175		20050302		

AB The film comprises a **metal layer** and an adhesive layer, or comprises a polymer film, a **metal layer**, and an adhesive layer, or comprises a polymer film and an adhesive **layer** containing **metal** powder, where the standard **electrode** potential of the **metal layer** or the **metal** powder is lower than that of the substrate metal material; and there is an elec. contact structure between the substrate metal material and the **metal layer** or the **metal** powder. Preferably, the substrate metal material is Fe; the **metal layer** or the **metal** powder is Zn, Al, Mg, and/or their alloy; and there are unevenness on the **metal layer** surface with its concavity being in contact with the adhesive layer.
CC 72-6 (Electrochemistry)
Section cross-reference(s): 38, 55, 56
ST multilayer protection film rust prevention metal material; zinc aluminum magnesium **polymer** adhesive **multilayer** protection film
IT Acrylic polymers, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(adhesive layer; of multilayer protection film for rust prevention of metal materials)
IT Coating materials
(anticorrosive; multilayer protection film for rust prevention of metal materials)
IT Coating materials
(multilayer protection film for rust prevention of metal materials)
IT **Metals**, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**multilayer** protection film for rust prevention of metal materials)
IT Films
(multilayer; multilayer protection film for rust prevention of metal materials)
IT 7429-90-5, Aluminum, uses 7439-95-4, Magnesium, uses 7440-66-6, Zinc, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(**metal layer**; of **multilayer** protection film for rust prevention of metal materials)
IT 9003-07-0, **Polypropylene**
RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
(**polymer** film; of **multilayer** protection film for

rust prevention of metal materials)
IT 7439-89-6, Iron, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(substrate; multilayer protection film for rust prevention of metal materials)

L56 ANSWER 7 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:144677 HCAPLUS Full-text
DN 144:195326
TI Outer case members for secondary batteries for prevention of internal short circuits at wider temperature range
IN Yamamura, Akira
PA Nissan Motor Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2006049219	A	20060216	JP 2004-231451	20040806
PRAI	JP 2004-231451		20040806		

AB The members, for keeping and sealing power generation members, include **metal layers**, **first polymer** inner **layers** (e.g., **polypropylene**), and **second polymer** inner **layers** (e.g., **polyethylene**), satisfying T1p > T2p and T2g < T1g (T1p, T2p = m.p. of the **first** and **second polymer** inner **layers**, resp.; T1g, T2g = Tg of the **first** and **second polymer** inner **layers**, resp.). The secondary batteries show no p.d. between the **metal layers** and cathode and **anode** terminals after storage at low and high temps., and no self heat generation after overheating.
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
ST outer case battery prevention internal short circuit; metal polymer laminate outer case battery; **polypropylene polyethylene** aluminum alloy laminate battery case
IT Secondary batteries
(outer case members including **metal layers** and **first** and **second polymer** inner **layers** for secondary batteries)
IT Aluminum alloy, base
RL: DEV (Device component use); USES (Uses)
(**metal layer**; outer case members including **metal layers** and **first** and **second polymer** inner **layers** for secondary batteries)
IT 9003-07-0, **Polypropylene**
RL: DEV (Device component use); USES (Uses)
(first inner layer; outer case members including **metal layers** and **first** and **second polymer** inner **layers** for secondary batteries)
IT 9002-88-4, **Polyethylene**
RL: DEV (Device component use); USES (Uses)
(second inner layer; outer case members including **metal layers** and **first** and **second polymer** inner **layers** for secondary batteries)

L56 ANSWER 8 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1142150 HCAPLUS Full-text
DN 144:83377

TI Multilayer Laminated **Electrode** Assemblies: Integrated Disposable Sampling-Sensing Structures

AU Yonge, Laura; Isaac, Anita; Livingstone, Callum; Davis, James
CS School of Biomedical and Natural Sciences, Nottingham Trent University, Nottingham, UK

SO Analytical Letters (2005), 38(13), 2067-2076
CODEN: ANALBP; ISSN: 0003-2719
PB Taylor & Francis, Inc.
DT Journal
LA English

AB A novel approach to the use and fabrication of disposable electrochem. sensors has been detailed. Metal foils are sandwiched between an insulating polymer with multiple, individually addressable layers built up to form the basis of a three-**electrode** sensor. Coring the laminate reveals a ring **electrode** configuration within a "detection well" with sample volume defined by the capillary filling of the void. A dip-extract-analyze sampling protocol was designed such that multiple sites within a single laminate strip can be used. The mech. integrity of the construction has been assessed by electron microscopy and the electrochem. characteristics investigated using the oxidation of glucose as a model analyte. The reproducibility of the fabrication method has been evaluated with intra- and inter-RSD values for the anal. of 2 mM glucose lying within 5%.

CC 9-7 (Biochemical Methods)

ST **metal polymer multilayer electrode**
voltammetry; glucose sensor copper foil **polyester** multilayer **electrode**

IT Sensors
(electrochem.; multilayer laminated **electrode** assemblies for integrated disposable sampling-sensing structures)

IT Cyclic voltammetry
Electrodes
Glucose sensors
Lamination
Linear-sweep voltammetry
Multilayers
(multilayer laminated **electrode** assemblies for integrated disposable sampling-sensing structures)

IT **Polyesters**, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(multilayer laminated **electrode** assemblies for integrated disposable sampling-sensing structures)

IT **Electrodes**
(ring; multilayer laminated **electrode** assemblies for integrated disposable sampling-sensing structures)

IT Electric insulators
Foils
Sampling
(three-**electrode** sensor built of metal foils sandwiched between insulating polymer with multiple, individually addressable layers)

IT Metals, analysis
Polymers, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(three-**electrode** sensor built of metal foils sandwiched between insulating polymer with multiple, individually addressable layers)

IT 50-99-7, Glucose, analysis
RL: ANT (Analyte); ANST (Analytical study)

```
        (multilayer laminated electrode assemblies for integrated
        disposable sampling-sensing structures)
IT   7440-50-8, Copper, analysis
     RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST
     (Analytical study); USES (Uses)
        (multilayer laminated electrode assemblies for integrated
        disposable sampling-sensing structures)
RE.CNT  13    THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56  ANSWER 9 OF 24  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN   2004:1051697  HCAPLUS  Full-text
DN   142:209797
TI   Manufacturing wafer-level chip-scale-package to absorb stress generated
     due to difference of thermal expansion
IN   Jang, Dong Hyeon; Kang, Sa Yun
PA   Samsung Electronics Co., Ltd., S. Korea
SO   Repub. Korean Kongkae Taeho Kongbo, No pp. given
     CODEN: KRXXA7
DT   Patent
LA   Korean
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
     ---------------     ----   --------   --------------------   --------
PI   KR 2001105641        A     20011129   KR 2000-26313          20000517
PRAI KR 2000-26313              20000517
AB    A wafer-level chip-scale-package (WL-CSP) is provided to absorb stress
      generated according to a difference of thermal expansion between the WL-CSP
      and a system board where the WL-CSP is mounted, by forming the first polymer
      layer composed of elastomer directly formed on a passivation layer and
      photosensitive polyimide (PSPI).  A passivation layer is formed on a side
      surface of a semiconductor substrate having electrode pads exposed between
      passivation layers.  The first polymer layer is formed on the passivation
      layer.  A under barrier metal (UBM) of a predetd. pattern is formed on the
      electrode pad and the first polymer layer.  A metal
      redistribution layer is formed on the UBM, elec. connected to the electrode
      pad.  The second polymer layer is formed on the first polymer layer and the
      redistribution layer.  An outer connector is formed on a portion of the
      redistribution layer exposed between the second polymer layers, elec.
      connected to the electrode pad.  The first polymer
      layer includes elastomer directly formed on the passivation layer so that
      stress transferred through the outer connector is absorbed by the elastomer.
IC   ICM  H01L023-52
CC   76-3 (Electric Phenomena)
ST   wafer level chip scale package stress damping passivation
     electrode
IT   Electrodes
     Electronic packages
     Passivation
     Semiconductor materials
     Thermal expansion
        (manufacturing wafer-level chip-scale-package to absorb stress generated
due
        to difference of thermal expansion)
IT   Polyimides, processes
     RL: CPS (Chemical process); PEP (Physical, engineering or chemical
     process); TEM (Technical or engineered material use); PROC (Process); USES
     (Uses)
        (photosensitive; manufacturing wafer-level chip-scale-package to absorb
        stress generated due to difference of thermal expansion)
```

L56 ANSWER 10 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:1036523 HCAPLUS Full-text
DN 142:9264
TI **Anode** for rechargeable lithium battery
IN Cho, Chung-Kun; Hwang, Duck-Chul; Hwang, Seung-Sik; Lee, Sang-Mock
PA Samsung SDI Co., Ltd., S. Korea
SO U.S. Pat. Appl. Publ., 9 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004241549	A1	20041202	US 2004-776229	20040212
	KR 2004102436	A	20041208	KR 2003-33819	20030527
	JP 2004356082	A	20041216	JP 2003-359504	20031020
	CN 1574424	A	20050202	CN 2004-10047713	20040305
PRAI	KR 2003-33819	A	20030527		

AB The **anode** comprises a **first polymer layer**, a **second polymer layer** on the **first polymer layer**, a **metal layer** on the **second polymer layer** and an **anode** active material **layer** on the **metal layer**.
IC ICM H01M002-16
ICS H01M004-66; H01M004-40
INCL 429246000; 429245000; 429231950
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 49
ST secondary lithium battery **anode**
IT Battery **anodes**
Laminated materials
(**anodes** for secondary lithium batteries)
IT Fluoropolymers, uses
Polyamides, uses
Polycarbonates, uses
Polyesters, uses
Polyimides, uses
Polyolefins
Polyoxyalkylenes, uses
Polyoxymethylenes, uses
Polysulfones, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(**anodes** for secondary lithium batteries)
IT Polysiloxanes, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(aralkyl, halo; **anodes** for secondary lithium batteries)
IT Coating process
(gap, knife, slot-die; **anodes** for secondary lithium batteries)
IT Secondary batteries
(lithium; **anodes** for secondary lithium batteries)
IT Alkadienes
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(polymers; **anodes** for secondary lithium batteries)
IT Coating process
(roller; **anodes** for secondary lithium batteries)

IT Coating process
(spray; **anodes** for secondary lithium batteries)
IT 7429-90-5, Aluminum, uses 7439-89-6, Iron, uses 7439-92-1, Lead, uses 7439-93-2, Lithium, uses 7439-95-4, Magnesium, uses 7439-98-7, Molybdenum, uses 7440-02-0, Nickel, uses 7440-06-4, Platinum, uses 7440-09-7, Potassium, uses 7440-21-3, Silicon, uses 7440-22-4, Silver, uses 7440-23-5, Sodium, uses 7440-24-6, Strontium, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses 7440-36-0, Antimony, uses 7440-39-3, Barium, uses 7440-47-3, Chromium, uses 7440-48-4, Cobalt, uses 7440-50-8, Copper, uses 7440-56-4, Germanium, uses 7440-57-5, Gold, uses 7440-66-6, Zinc, uses 7440-70-2, Calcium, uses 7440-74-6, Indium, uses 9002-86-2, **PVC** 9002-88-4, **Polyethylene** 9003-07-0, **Polypropylene** 24937-78-8, **Ethylene vinyl** acetate copolymer 25038-59-9, uses 25067-34-9, **Ethylene vinyl** alcohol copolymer
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(**anodes** for secondary lithium batteries)

L56 ANSWER 11 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:162063 HCAPLUS Full-text
DN 140:206584
TI Method of manufacturing printed circuit board and multi-layered pcb
IN Lee, Hyuek Jae; Yu, Jin
PA Korea Advanced Institute of Science and Technology, S. Korea
SO U.S. Pat. Appl. Publ., 6 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004035711	A1	20040226	US 2002-231052	20020830
	US 6902660	B2	20050607		
	KR 2004017478	A	20040227	KR 2002-49550	20020821
PRAI	KR 2002-49550	A	20020821		

AB Disclosed is a fabrication method of a printed circuit board, consisting of plating a metal on a pattern-formed metallic substrate to form a conductive metal line; forming a polymer layer as a base substrate over the conductive metal line-formed metallic substrate and drying the formed polymer layer; forming a via hole to the polymer layer, followed by plugging the formed via hole by electroplating; and removing the metallic substrate. The method is advantageous in terms of maximum efficiency of use of the surface area of PCB, and fineness and high integration of circuits because of not requiring an addnl. etching process.
IC ICM C25D005-02
INCL 205125000; 205131000; 205205000
CC 72-8 (Electrochemistry)
Section cross-reference(s): 38
ST printed circuit board **multilayered polymer metal** electroplating
IT Multilayers
(manufacturing multi-layered printed circuit board)
IT **Polyimides**, uses
Polymers, uses
RL: NUU (Other use, unclassified); USES (Uses)
(manufacturing multi-layered printed circuit board comprising)
IT **Electrodeposition**
(manufacturing multi-layered printed circuit board using)
IT Printed circuit boards

(manufacturing printed circuit board and multi-layered pcb)
IT Laser radiation
(use as substrate in manufacturing multi-layered printed circuit board)
IT Photoresists
(use in manufacturing multi-layered printed circuit board)
IT 7440-31-5P, Tin, processes 7440-47-3P, Chromium, processes 7440-50-8P, Copper, processes 7440-57-5P, Gold, processes
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PREP (Preparation); PROC (Process)
(manufacturing multi-layered printed circuit board using electroplating of)
IT 12597-68-1, Stainless steel, uses
RL: CPS (Chemical process); DEV (Device component use); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(use as substrate in manufacturing multi-layered printed circuit board)
IT 7429-90-5, Aluminum, uses 7440-02-0, Nickel, uses
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(use as substrate in manufacturing multi-layered printed circuit board)
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 12 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:32458 HCAPLUS Full-text
DN 140:103458
TI Films with **bilayered metals** formed by vapor deposition and **electrodeposition**, their manufacture, and electronic devices using such films
IN Miyake, Toru; Suzuki, Takashi; Harada, Hiroshi
PA Toyo Metallizing Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004009357	A	20040115	JP 2002-162640	20020604
PRAI	JP 2002-162640		20020604		

AB Film comprising a **metal** vapor deposition **layer**, a 0.5-0.9 μm-thick electroplated elec. conductive **metal layer**, and a <20 μm-thick elec. insulating layer in the order is claimed. The insulating layer may comprise **polyimides**, epoxy resins, or their mixts. or may optionally be thermotropic liquid crystal polymer. The said films are prepared by formation of a release **layer**, the **metal layers** by vapor deposition and electroplating, an elec. insulating polymer layer by coating, on a plastic support which is then removed from the release layer. Electronic devices comprising the said films are also claimed. Crease-free films with high surface smoothness are obtained.
IC ICM B32B015-04
ICS C23C014-06; C23C028-00; C25D001-22; H05K001-09
CC 76-14 (Electric Phenomena)
Section cross-reference(s): 56
ST **metal multilayered** film surface smoothness; electronic device **metal multilayered** film; vapor deposition **metal layer multilayered** film; electroplated conductive **metal layer multilayered** film; thermotropic liq crystal **polymer metal**

multilayered film; insulator outermost coating **metal multilayered** film

IT Electric insulators
(coatings; manufacture of films with **bilayered metals** and insulation **overlayers** for electronic devices)

IT Epoxy resins, uses
Polyimides, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(elec. insulators; manufacture of films with **bilayered metals** and insulation **overlayers** for electronic devices)

IT Capacitors
(film; manufacture of films with **bilayered metals** and insulation **overlayers** for electronic devices)

IT **Polyesters,** uses
RL: NUU (Other use, unclassified); USES (Uses)
(films, released support layer in; manufacture of films with **bilayered metals** and insulation **overlayers** for electronic devices)

IT Printed circuit boards
(manufacture of films with **bilayered metals** and insulation **overlayers** for electronic devices)

IT Vapor deposition process
(**metal layer** formed by; manufacture of films with **bilayered metals** and insulation **overlayers** for electronic devices)

IT **Electrodeposits**
(**metal layer;** manufacture of films with **bilayered metals** and insulation **overlayers** for electronic devices)

IT Films
(multilayer; manufacture of films with **bilayered metals** and insulation **overlayers** for electronic devices)

IT Liquid crystals, polymeric
(thermotropic; manufacture of films with **bilayered metals** and insulation **overlayers** for electronic devices)

IT 288589-99-1, Upitite UPA-N111
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(insulation layer; manufacture of films with **bilayered metals** and insulation **overlayers** for electronic devices)

IT 644975-79-1, Lumirror T 70D 644976-15-8, Lumirror R 72
RL: NUU (Other use, unclassified); USES (Uses)
(released support layer in; manufacture of films with **bilayered metals** and insulation **overlayers** for electronic devices)

IT 7440-50-8, Copper, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(vapor deposition, electroplating; manufacture of films with **bilayered metals** and insulation **overlayers** for electronic devices)

L56 ANSWER 13 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:20184 HCAPLUS Full-text
DN 140:86047
TI **Metal**-laminated **multilayer** film capacitors with good contact strength and current and moisture resistance, and their

manufacture
IN Kubo, Yasuhiro; Nishikawa, Shigeyoshi; Mori, Takashi
PA Nichicon Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004006495	A	20040108	JP 2002-159564	20020531
PRAI	JP 2002-159564		20020531		

AB The film capacitor is manufactured by (A) vapor-depositing Al on dielec. resin films, (B) laminating them, (C) cutting into a stick shape, (D) chemical dry-etching the resins on the cutting side using activated plasma gases, and (E) thermal-spraying metals on the etched surface for forming extraction **electrodes**.
IC ICM H01G004-18
ICS H01G004-30; H01G004-24
CC 76-10 (Electric Phenomena)
ST film capacitor aluminum resin laminate etching; extn **electrode** thermal spraying multilayer capacitor
IT Etching
(dry, of resin **layers**; **metal**-laminated **multilayer** film capacitors with good contact strength and current and moisture resistance)
IT Capacitors
(film; **metal**-laminated **multilayer** film capacitors with good contact strength and current and moisture resistance)
IT Acrylic polymers, processes
Polyesters, processes
Polythiophenylenes
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(**metal**-laminated **multilayer** film capacitors with good contact strength and current and moisture resistance)
IT Capacitors
(**multilayer**; **metal**-laminated **multilayer** film capacitors with good contact strength and current and moisture resistance)
IT Coating process
(thermal spraying, forming extraction **electrodes** with; **metal**-laminated **multilayer** film capacitors with good contact strength and current and moisture resistance)
IT 25230-87-9
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(assumed monomers; **metal**-laminated **multilayer** film capacitors with good contact strength and current and moisture resistance)
IT 1344-28-1, Alumina, uses 7631-86-9, Silica, uses
RL: DEV (Device component use); USES (Uses)
(coating Al **layer** with; **metal**-laminated **multilayer** film capacitors with good contact strength and current and moisture resistance)
IT 77-73-6DP, Dicyclopentadiene, diacrylates, **polymers**
RL: CPS (Chemical process); DEV (Device component use); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process); USES (Uses)
(**metal**-laminated **multilayer** film capacitors with

good contact strength and current and moisture resistance)
IT 24968-11-4, **Polyethylene** naphthalate 25038-59-9, PET polymer, processes
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(**metal**-laminated **multilayer** film capacitors with good contact strength and current and moisture resistance)
IT 7429-90-5, Aluminum, uses
RL: DEV (Device component use); USES (Uses)
(vapor-deposited; **metal**-laminated **multilayer** film capacitors with good contact strength and current and moisture resistance)

L56 ANSWER 14 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:17751 HCAPLUS Full-text
DN 138:42089
TI Packaging methods and fabrication techniques for making electrochemical cells and multicell batteries
IN Klein, Martin G.; Ralston, Paula; Plivelich, Robert
PA Electro Energy, Inc., USA
SO U.S., 20 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6503658	B1	20030107	US 2001-902871	20010711
	US 2003013015	A1	20030116		
	CA 2453558	A1	20030123	CA 2002-2453558	20020628
	WO 2003007415	A1	20030123	WO 2002-US20368	20020628

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	AU 2002322335	A1	20030129	AU 2002-322335	20020628
	EP 1419549	A1	20040519	EP 2002-756320	20020628

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	JP 2004523091	T	20040729	JP 2003-513073	20020628
	CN 1620735	A	20050525	CN 2002-817670	20020628
	RU 2298264	C2	20070427	RU 2004-103804	20020628
	TW 571457	B	20040111	TW 2002-91115341	20020710
	US 2003138691	A1	20030724	US 2003-337816	20030106
	US 6887620	B2	20050503		
PRAI	US 2001-902871	A	20010711		
	WO 2002-US20368	W	20020628		

AB The bipolar electrochem. battery of the invention comprises: a stack of at least two electrochem. cells elec. arranged in series with the pos. face of each cell contacting the neg. face of an adjacent cell, wherein each of the cells comprises (a) a neg. **electrode**; (b) a pos. **electrode**; (c) a separator between the **electrodes**, wherein the separator includes an electrolyte; (d) a first elec. conductive lamination comprising a first inner **metal layer** and a **first polymeric** outer

layer, the **first polymeric** outer **layer** having at least one perforation therein to expose the first inner **metal layer**, the first elec. conductive lamination being in elec. contact with the outer face of the neg. **electrode;** and (e) a second elec. conductive lamination comprising a second inner **metal layer** and a **second polymeric**
outer **layer**, the **second polymeric** outer **layer** having at least one perforation therein to expose the second inner **metal layer**, the second elec. conductive lamination being in elec. contact with the outer face of the pos. **electrode;** wherein the first and second laminations are sealed peripherally to each other to form an enclosure including the **electrodes**, the separator and the electrolyte.

IC ICM H01M010-18
ICS H01M006-48; H01M006-00

INCL 429210000; 429157000; 429162000; 429124000; 429127000; 429082000; 029623100; 029623300

CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): **72**

ST battery bipolar fabrication packaging method; electrochem cell fabrication packaging method

IT Epoxy resins, uses
Tar
RL: TEM (Technical or engineered material use); USES (Uses)
(binder; packaging methods and fabrication techniques for making electrochem. cells and multicell batteries)

IT Rubber, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(cement, binder; packaging methods and fabrication techniques for making electrochem. cells and multicell batteries)

IT Electric apparatus
(electrochem.; packaging methods and fabrication techniques for making electrochem. cells and multicell batteries)

IT **Polysulfones**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(layer; packaging methods and fabrication techniques for making electrochem. cells and multicell batteries)

IT Battery **anodes**
Battery cathodes
Compression
Packaging process
Primary batteries
Secondary batteries
(packaging methods and fabrication techniques for making electrochem. cells and multicell batteries)

IT Hydrides
Rare earth alloys
RL: DEV (Device component use); USES (Uses)
(packaging methods and fabrication techniques for making electrochem. cells and multicell batteries)

IT Cement
(rubber, binder; packaging methods and fabrication techniques for making electrochem. cells and multicell batteries)

IT 1309-42-8, Magnesium hydroxide 1309-48-4, Magnesium oxide, uses 1310-65-2, Lithium hydroxide 1313-99-1, Nickel oxide nio, uses 1344-69-0, Copper hydroxide 1344-70-3, Copper oxide 7439-95-4, Magnesium, uses 7439-96-5, Manganese, uses 7440-48-4, Cobalt, uses 7782-44-7, Oxygen, uses 11104-61-3, Cobalt oxide 11113-74-9, Nickel hydroxide 11129-60-5, Manganese oxide 12057-24-8, Lithium oxide, uses 12626-88-9, Manganese hydroxide 12653-71-3, Mercury oxide 12672-51-4, Cobalt hydroxide 12673-77-7, Silver hydroxide 20667-12-3, Silver oxide

39321-13-6, Mercury hydroxide
RL: DEV (Device component use); USES (Uses)
(cathodes; packaging methods and fabrication techniques for making electrochem. cells and multicell batteries)

IT 7429-90-5, Aluminum, uses 7439-93-2, Lithium, uses 7440-02-0, Nickel, uses 7440-22-4, Silver, uses 7440-50-8, Copper, uses 9002-86-2, Polyvinyl chloride 9002-88-4, **Polyethylene** 9003-07-0, **Polypropylene** 12597-69-2, Steel, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(layer; packaging methods and fabrication techniques for making electrochem. cells and multicell batteries)

IT 1333-74-0, Hydrogen, uses 7439-89-6, Iron, uses 7440-43-9, Cadmium, uses 7440-66-6, Zinc, uses 7580-67-8, Lithium hydride 37187-84-1, Nickel hydride 37251-25-5, Copper hydride 64296-66-8, Iron hydride
RL: DEV (Device component use); USES (Uses)
(packaging methods and fabrication techniques for making electrochem. cells and multicell batteries)

IT 7440-44-0, Carbon, uses
RL: MOA (Modifier or additive use); USES (Uses)
(polyvinyl chloride filled with; packaging methods and fabrication techniques for making electrochem. cells and multicell batteries)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 15 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:633163 HCAPLUS Full-text
DN 137:251236
TI Application of multilayer or composite coating on dielectric fibers or sheets from electroplating baths
IN Popov, G. P.
PA Russia
SO Russ., No pp. given
CODEN: RUXXE7
DT Patent
LA Russian
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	RU 2177051	C1	20011220	RU 2001-105400	20010227
PRAI	RU 2001-105400		20010227		

AB The dielec. fibers, cloth, or sheet substrates are pretreated by 2-stage activation with washing and sulfidizing, and then are coated with a composite **layer** by **metalizing** from electroplating bath. The composite is based on Ni or Ni-alloy coating containing dispersed particles selected from: Mo and/or W sulfides; Cd, Zn, Ta, and/or Mo selenides; oxides of Nb, Al, and/or Si; and/or diamond or graphite. The dielec. **polymer** fibers with **multilayer** coating are suitable for protection against the effects of magnetic fields, electromagnetic radiation, or cosmic-ray bombardment.

IC ICM C23C018-16
ICS C23C028-00; C25D005-54
CC 56-4 (Nonferrous Metals and Alloys)
Section cross-reference(s): 40
ST polymer fiber activation electroplating nickel alloy composite; multilayer coating dielec fabric activation electroplating
IT Metal matrix composites
(Ni-alloy; application of multilayer or composite coating on dielec. fabric by electroplating)
IT Synthetic polymeric fibers, processes
RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); PROC (Process)

(coating of; application of multilayer or composite coating on dielec. fibers by electroplating)

IT **Polyamides**, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fibers, coating of; multilayer or composite coating applied on activated dielec. fibers by electroplating)

IT Shields
(flexible, coated fabric for; application of multilayer or composite coating on dielec. fabric by electroplating)

IT **Electrodeposition**
(multilayer; application of multilayer or composite coating on dielec. fibers by electroplating)

IT Sulfidation
(of fibers, for coating; application of multilayer or composite coating on dielec. fibers by electroplating)

IT 7440-48-4D, Cobalt, salts 7440-50-8D, Copper, salts 7440-66-6D, Zinc, salts 14798-03-9D, Ammonium, salts
RL: CAT (Catalyst use); USES (Uses)
(aqueous, activation solution with; multilayer or composite coating applied on
activated dielec. fibers by electroplating)

IT 1306-24-7, Cadmium selenide, uses 1315-09-9, Zinc selenide 1317-33-5, Molybdenum disulfide, uses 1344-28-1, Alumina, uses 7631-86-9, Silica, uses 7782-40-3, Diamond, uses 7782-42-5, Graphite, uses 12039-55-3, Tantalum diselenide 12058-18-3, Molybdenum selenide 12138-09-9, Tungsten disulfide 12627-00-8, Niobium oxide
RL: MOA (Modifier or additive use); USES (Uses)
(dispersed, composite coating with; multilayer or composite coating applied on activated dielec. fibers by electroplating)

IT 7440-02-0, Nickel, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(electroplating with; application of multilayer or composite coating on dielec. fibers by electroplating)

IT 25038-54-4, Capron, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fibers, coating of; multilayer or composite coating applied on activated dielec. fibers by electroplating)

L56 ANSWER 16 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:51807 HCAPLUS Full-text
DN 136:94638
TI Making encapsulated organic electronic devices
IN McCormick, Fred B.; Baude, Paul F.; Vernstrom, George D.
PA 3M Innovative Properties Company, USA
SO PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002005361	A1	20020117	WO 2000-US31393	20001115

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,

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          BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     US 6867539          B1     20050315    US 2000-614993          20000712
     EP 1299913          A1     20030409    EP 2000-989200          20001115
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
     JP 2004503066       T      20040129    JP 2002-509116          20001115
     US 2005129841       A1     20050616    US 2005-35517           20050114
PRAI US 2000-614993      A      20000712
     WO 2000-US31393     W      20001115
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AB The invention provides methods for making encapsulated organic electronic devices (OED) including organic LEDs (OLED). The present invention can provide a robust OED device by means of in situ edge sealing enhancing structural integrity and device lifetime. The edge sealing is provided by using an adhesive component applied to a substrate prior to OED element deposition. A thin layer of an adhesive (pressure sensitive adhesive, hot melt, or curable) is applied to release liner, openings are cut in the adhesive/liner composite, then the composite is adhered to an **electrode**-coated substrate. Alternatively, an adhesive may be applied directly onto the **electrode**-coated substate, e.g., by printing in a desired pattern, optionally partially cured or dried, then covered with ≥1 liners that act as a mask during deposition of the OLED elements. Another method would be to prepare a blank liner with a patterned adhesive, then die cut openings complementary to the adhesive pattern in the liner to allow deposition of OLED elements once the adhesive/liner is placed on the substrate.

IC ICM H01L051-20
ICS H01L051-40; H05B033-04

CC 76-3 (Electric Phenomena)
Section cross-reference(s): 38

ST encapsulated org electronic device prepn

IT Electric conductors
(adhesive, thermal, elec.; making encapsulated organic electronic devices)

IT Electron beam evaporation
(alumina layer; making encapsulated organic electronic devices)

IT Siloxanes (nonpolymeric)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(coated on metal foil as adhesive-coated liner; making encapsulated organic electronic devices)

IT **Polyesters**, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(coated with siloxanes or fluorocarbons as adhesive-coated liner; making encapsulated organic electronic devices)

IT Adhesives
(conductive, thermal, elec.; making encapsulated organic electronic devices)

IT Adhesives
(curable; making encapsulated organic electronic devices)

IT Fluoropolymers, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(film as adhesive-coated liner; making encapsulated organic electronic devices)

IT Hydrocarbons, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(fluoro, coated on metal foil as adhesive-coated liner; making encapsulated organic electronic devices)

IT Electric contacts
Electroluminescent devices

Encapsulation
Lamps (nonelectric)
Microelectronic devices
Release coatings
Sealing
Shadow masks
(making encapsulated organic electronic devices)
IT Foils
(**metal** as protective **layer**; making encapsulated organic electronic devices)
IT **Multilayers**
(**polymer** as protective layer; making encapsulated organic electronic devices)
IT Films
(polymeric; making encapsulated organic electronic devices)
IT Adhesives
(pressure-sensitive; making encapsulated organic electronic devices)
IT Glass, uses
RL: DEV (Device component use); USES (Uses)
(thin flexible as protective layer; making encapsulated organic electronic devices)
IT 7789-24-4, Lithium fluoride, uses
RL: DEV (Device component use); USES (Uses)
(LiF/Al cathode; making encapsulated organic electronic devices)
IT 9003-07-0, **Polypropylene**
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(adhesive-coated liner; making encapsulated organic electronic devices)
IT 126213-51-2, Poly(ethylenedioxythiophene)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(conductive polymer in light emitting construction; making encapsulated organic electronic devices)
IT 1314-13-2, Zinc oxide, uses 7429-90-5, Aluminum, uses 7439-93-2, Lithium, uses 7439-95-4, Magnesium, uses 7440-19-9, Samarium, uses 7440-22-4, Silver, uses 7440-39-3, Barium, uses 7440-57-5, Gold, uses 7440-65-5, Yttrium, uses 7440-70-2, Calcium, uses 50926-11-9, ITO 53740-87-7
RL: DEV (Device component use); USES (Uses)
(counter **electrode**; making encapsulated organic electronic devices)
IT 1344-28-1, Alumina, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(electron beam evaporation on ITO; making encapsulated organic electronic devices)
IT 1332-29-2, Tin oxide
RL: DEV (Device component use); USES (Uses)
(fluorine, counter **electrode**; making encapsulated organic electronic devices)
IT 123847-85-8, α-NPD
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(hole transport layer in light emitting construction; making encapsulated organic electronic devices)
IT 147-14-8, Copper phthalocyanine 155306-71-1, C545T
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(in light emitting construction; making encapsulated organic electronic devices)

IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(light emitting layer; making encapsulated organic electronic devices)
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 17 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 2001:245794 HCAPLUS Full-text
DN 135:27559
TI **Multilayer** planarization of **polymer** dielectrics
AU Chiniwalla, Punit; Manepalli, Rahul; Farnsworth, Kimberly; Boatman, Mary; Dusch, Brian; Kohl, Paul; Bidstrup-Allen, Sue Ann
CS School of Chemical Engineering, Georgia Institute of Technology, Atlanta, GA, 30332-0100, USA
SO IEEE Transactions on Advanced Packaging (2001), 24(1), 41-53
CODEN: ITAPFZ; ISSN: 1521-3323
PB Institute of Electrical and Electronics Engineers
DT Journal
LA English
AB Polymers are widely used in the microelectronics industry as thin-film interlevel dielecs. **layers** between **metal** lines, as passivation layers on semiconductor devices and in various packaging applications. As multiple layers of polymer and patterned metal are constructed, the ability of these polymers to planarize topog. features becomes increasingly important. The degree of planarization (DOP) for five com. available polymers was examined for three different structural configurations with the intent of simulating practical applications. Specifically, this study studies single layer planarization, multiple coat planarization, and planarization of metal lines patterned on a polymer base. This study also examines the effects of orientation of the metal structure to polymer flow during spin casting and location on the wafer. The polymers were selected to study different polymer chemistries frequently used in the microelectronics industry. The underlying structures were fabricated using standard photolithog. and electroplating techniques. Feature dimensions include 25-200 μm line spacings and widths with the polymer overcoat thickness being twice the height of the underlying structures.
CC 76-10 (Electric Phenomena)
Section cross-reference(s): 38, 66
ST **polymer** spin casting **multilayer** planarization dielec film
IT Dielectric films
Electrodeposition
Multilayers
Photolithography
(**multilayer** planarization of **polymer** dielecs.)
IT **Polyimides**, processes
Polymers, processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**multilayer** planarization of **polymer** dielecs.)
IT Coating process
(spin; **multilayer** planarization of **polymer** dielecs.)
IT 124221-30-3, DVS-BCB 3022-57
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(DVS-BCB 3022-57; **multilayer** planarization of **polymer** dielecs.)
IT 7440-32-6, Titanium, processes 7440-50-8, Copper, processes

29319-22-0, PI 2611 157243-45-3, Ultradel 7501 182371-85-3, PI 2734
222050-75-1, LMB 7081
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(**multilayer** planarization of **polymer** dielecs.)

RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56 ANSWER 18 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1999:34341 HCAPLUS Full-text
DN 130:82163
TI Method of manufacturing passive elements using conductive polypyrrole formulations
IN Murphy, Oliver J.; Hitchens, G. Duncan; Hodko, Dalibor; Clarke, Eric T.; Miller, David L.; Parker, Donald L.
PA Lynntech, Inc., USA
SO U.S., 24 pp., Cont.-in-part of U.S. 5,545,308.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5855755	A	19990105	US 1996-630063	19960412
	US 5545308	A	19960813	US 1995-491625	19950619
	US 6210537	B1	20010403	US 1995-492235	19950619
	WO 9739383	A1	19971023	WO 1997-US6047	19970411

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN

RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	AU 9728009	A	19971107	AU 1997-28009	19970411
	EP 832448	A1	19980401	EP 1997-922296	19970411
	EP 832448	B1	20010711		

R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	AT 203111	T	20010715	AT 1997-922296	19970411
	US 5948232	A	19990907	US 1997-881107	19970623
PRAI	US 1995-491625	A2	19950619		
	US 1995-492235	A2	19950619		
	US 1996-630063	A1	19960412		
	WO 1997-US6047	W	19970411		

AB The present invention provides electronically conducting polymer films formed from photosensitive formulations of pyrrole and an electron acceptor that have been selectively exposed to UV light, laser light, or electron beams. The formulations may include photoinitiators, flexibilizers, solvents and the like. These formulations can be used to manufacture multichip modules on typical multichip module substrates, such as alumina, fiberglass epoxy, silicon and **polyimide**. The formulations and methods of the invention enable the formation of passive electronic circuit elements such as resistors, capacitors and inductors in multichip modules or printed wiring boards.

IC ICM C25D005-02
ICS C25D005-54; C08F002-48; B21F041-00
INCL 205122000
CC 36-6 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 38, 72, 73
ST conductive polypyrrole formulation passive element electronic device; photopolymn photoinitiator flexibilizer solvent resistor capacitor

indicator
IT Electron beams
Heat treatment
IR laser radiation
Plasticizers
UV radiation
(in manufacturing passive elements using conductive polypyrrole
formulations)
IT Solvents
Surfactants
(manufacturing passive elements using conductive polypyrrole formulations
using)
IT Capacitors
Electric apparatus
Indicators
Printed circuit boards
Resistors
(manufacturing using conductive polypyrrole formulations)
IT Electric conductivity
Multilayers
Surface structure
(of conducting **polymer** films in manufacturing passive elements
using conductive polypyrrole formulations)
IT Electric resistance
Thickness
(of conducting polymer films-resistors)
IT **Electrodeposition**
(of of **metal** electroconductive **layer** and dielec.
material layer in manufacturing passive elements using conductive
polypyrrole
formulations)
IT Polymerization
(photopolymn.; manufacturing passive elements using conductive polypyrrole
formulations obtained by)
IT Coating process
(spin; manufacturing passive elements using conductive polypyrrole
formulations using)
IT Glass fibers, properties
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(substrate in manufacturing passive elements using conductive polypyrrole
formulations)
IT 151-41-7 25155-30-0, Sodium dodecylbenzenesulfonate 28605-98-3, Sodium
dodecylbenzenesulfate
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(flexibilizer in manufacturing passive elements using conductive
polypyrrole
formulations)
IT 62-53-3, Aniline, properties 62-53-3D, Aniline, derivative
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(forming dielec. layer in solid state electrolytic capacitors using)
IT 7440-05-3, Palladium, properties 7440-50-8, Copper, properties
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation,
nonpreparative)
(forming electroconductive layer in solid state electrolytic capacitors
by **electrodeposition** of)
IT 30604-81-0, Polypyrrole
RL: FMU (Formation, unclassified); NUU (Other use, unclassified); PRP
(Properties); FORM (Formation, nonpreparative); USES (Uses)
(manufacturing passive elements using conductive polypyrrole formulations)
IT 7761-88-8, Silver nitrate, properties 14104-20-2, Silver

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     tetrafluoroborate   16836-95-6, Silver tosylate
     RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
        (manufacturing passive elements using conductive polypyrrole formulations
        and)
IT   14797-55-8, Nitrate, properties   14797-65-0, Nitrite, properties
     14797-73-0, Perchlorate   14874-70-5, Tetrafluoroborate   16722-51-3,
     Tosylate, properties
     RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
        (manufacturing passive elements using conductive polypyrrole formulations
and
        dopant anion such as)
IT   1271-29-0, Titanocene   12125-80-3, Ferrocenium   12176-31-7,
     (η6-Benzene)(η5-cyclopentadienyl)iron(II) hexafluorophosphate
     104558-94-3, Cyracure UVI 6974   104558-95-4, Cyracure UVI 6990
     RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
        (photoinitiator in manufacturing passive elements using conductive
        polypyrrole formulations)
IT   109-97-7, Pyrrole   109-97-7D, Pyrrole, derivative
     RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
        (polymerization for manufacturing passive elements using conductive
polypyrrole
        formulations)
IT   1344-28-1, Alumina, properties
     RL: DEV (Device component use); PRP (Properties); USES (Uses)
        (substrate in manufacturing passive elements using conductive polypyrrole
        formulations)
IT   75-05-8, Acetonitrile, properties
     RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
        (using in manufacturing passive elements using conductive polypyrrole
        formulations)
RE.CNT  14    THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L56  ANSWER 19 OF 24  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN   1997:587852  HCAPLUS  Full-text
DN   127:286978
TI   Multilayer metal-electroplated polymer
     molding with good surface smoothness and wire bondability, its
     manufacture, and electronic part
IN   Akeda, Tomoyuki
PA   Polyplastics Co., Ltd., Japan
SO   Jpn. Kokai Tokkyo Koho, 5 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
     ---------------     ----   --------   --------------------   --------
PI   JP 09228093          A     19970902   JP 1996-30348          19960219
     JP 3529215           B2    20040524
PRAI JP 1996-30348              19960219
AB   The polymer molding is manufactured by forming a low-stress electroplated
     layer with internal stress ≤1.5 kg/mm2 and forming an uppermost electroplated
     layer using a bath with large leveling effect.  The molding has the 1st
     electroplated layer with internal stress ≤1.5 kg/mm2 and the uppermost
     electroplated layer with surface roughness ≤10 μm.  The electronic part is
     obtained by laminating an electronic element on the molding using a wire
     bonding method.  The molding showed good surface smoothness and wire
     bondability.
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IC    ICM  C25D005-10
      ICS  C25D005-56; C23C028-02
CC    76-14 (Electric Phenomena)
      Section cross-reference(s): 38, 56, 72
ST    metal electroplated polymer molding electronic part; wire bondability
      metal electroplated polymer molding; surface smoothness metal
      electroplated polymer molding
IT    Electrodeposition
      Liquid crystals, polymeric
      Printed circuit boards
         (multilayer metal-electroplated polymer
         molding with good wire bondability for electronic part)
IT    Polyesters, uses
      RL: DEV (Device component use); USES (Uses)
         (substrate; multilayer metal-electroplated
         polymer molding with good wire bondability for electronic part)
IT    196522-27-7, Cupracid 828A   196522-40-4, Cupracid 828M
      RL: MOA (Modifier or additive use); USES (Uses)
         (brightening agent; multilayer metal-electroplated
         polymer molding with good wire bondability for electronic part)
IT    7440-50-8, Copper, processes
      RL: DEV (Device component use); PEP (Physical, engineering or chemical
      process); PROC (Process); USES (Uses)
         (multilayer metal-electroplated polymer
         molding with good wire bondability for electronic part)
IT    7758-98-7, Copper sulfate, uses
      RL: NUU (Other use, unclassified); USES (Uses)
         (multilayer metal-electroplated polymer
         molding with good wire bondability for electronic part)
IT    196522-32-4, Copper Gleam 125
      RL: MOA (Modifier or additive use); USES (Uses)
         (stress-reducing agent; multilayer metal
         -electroplated polymer molding with good wire bondability for
         electronic part)
IT    116255-48-2, Vectra
      RL: DEV (Device component use); USES (Uses)
         (substrate; multilayer metal-electroplated
         polymer molding with good wire bondability for electronic part)

L56   ANSWER 20 OF 24  HCAPLUS  COPYRIGHT 2007 ACS on STN
AN    1997:508513  HCAPLUS  Full-text
DN    127:228290
TI    Multilayer interconnection circuit boards and manufacturing thereof by
      plating circuits and laminating polymer insulators
IN    Ito, Daisuke; Sasaki, Masayuki
PA    Shinko Electric Industries Co., Ltd., Japan
SO    Jpn. Kokai Tokkyo Koho, 6 pp.
      CODEN: JKXXAF
DT    Patent
LA    Japanese
FAN.CNT 1
      PATENT NO.        KIND    DATE        APPLICATION NO.       DATE
      ---------------   ----    --------    --------------------  --------
PI    JP 09199850        A      19970731    JP 1996-4485          19960116
PRAI  JP 1996-4485              19960116
AB    The title circuit boards have a multilayer circuit patterns which are formed
      via insulator layers on both sides of a substrate and connected between the
      patterns through via holes.  The manufacturing involves coating an insulative
      polymer layer over an internal circuit pattern, electrodepositing a metallic
      layer on the insulator layer, patterning the metallic layer by etching, press-
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laminating on the patterned **metallic layer** with a Cu-formed polymer insulator layer so as to become the outer metallic film flat surface, and subsequently etching to pattern the outer metallic film to give an outer circuit layer. The fabrication gives the outer circuit pattern and the outer insulator layer an increased adhesion and increased integration.

IC ICM H05K003-46
ICS H05K003-46
CC 76-2 (Electric Phenomena)
Section cross-reference(s): 38, 56
ST interconnection circuit board **electrodeposition** copper patterning; **polymer** insulator **multilayer** circuit adhesion integration; leveling multilayer circuit board press lamination
IT Epoxy resins, properties
Polyimides, properties
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PROC (Process); USES (Uses)
(elec. insulator; multilayer interconnection circuit boards and manufacturing
thereof by plating circuits and laminating polymer insulators)
IT Adhesion, physical
Electrodeposition
Integrated circuits
Interconnections (electric)
(multilayer interconnection circuit boards and manufacturing thereof by plating circuits and laminating polymer insulators)
IT Printed circuit boards
(multilayer; multilayer interconnection circuit boards and manufacturing thereof by plating circuits and laminating polymer insulators)
IT Coating process
(**polymer** insulator; **multilayer** interconnection circuit boards and manufacturing thereof by plating circuits and laminating polymer insulators)
IT Electric insulators
(**polymer; multilayer** interconnection circuit boards and manufacturing thereof by plating circuits and laminating polymer insulators)
IT 7440-50-8P, Copper, properties
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); PROC (Process)
(elec. circuits; multilayer interconnection circuit boards and manufacturing
thereof by plating circuits and laminating polymer insulators)

L56 ANSWER 21 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1995:377353 HCAPLUS Full-text
DN 122:303870
TI M4CMS (thin film Multi-MMic Multi-IC Modules) for microwave applications
AU Feurer, Ernst; Oppermann, Martin; Holl, Bruno
CS Deutsche Aerospace (Dasa), Ulm, 89077, Germany
SO Proceedings of SPIE-The International Society for Optical Engineering (1994), 2369(27th International Symposium on Microelectronics, 1994), 49-53
CODEN: PSISDG; ISSN: 0277-786X
DT Journal
LA English
AB Microwave Transmit/Receive (T/R) modules for modern radar applications were realized with multilayer integration technol. The M4-multilayer is designed and fabricated in thin film technol. on Al2O3 ceramic substrates and offers a high order of complexity for radio frequency (rf) circuits up to 20 GHz. Single-face and double-face structured and populated MCM substrates are

presented. Microstrip lines with integrated thin film resistors in combination with the dielec. spaced ground layer on the opposite side define the radiofrequency layer on top of the substrate. The multilayer logic control unit consists of three **metal layers** (ground-, x-, y-conductor plane), each separated by patterned polymeric dielecs. (**polyimide**, benzocyclobutene). This paper describes the necessary technol. steps for high performance in thin film multilayer technol. in regard to cost driven microwave applications.

CC 76-3 (Electric Phenomena)
Section cross-reference(s): 57
ST radar multilayer multimodule technol alumina
IT Laser radiation
(drilling; multilayer multimodule technol. for radar)
IT **Polymers**, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(insulating; **multilayer** multimodule technol. for radar)
IT Annealing
Electrodeposition and Electroplating
Etching
Lithography
Radar
Sputtering
(multilayer multimodule technol. for radar)
IT **Polyimides**, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(multilayer multimodule technol. for radar)
IT Electric insulators and Dielectrics
(**polymeric**; **multilayer** multimodule technol. for radar)
IT 1344-28-1, Alumina, processes 7440-02-0, Nickel, processes 7440-57-5, Gold, processes 11105-45-6 12642-02-3 124221-30-3D, Benzocyclobutene, **polymers**
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(**multilayer** multimodule technol. for radar)

L56 ANSWER 22 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1992:44112 HCAPLUS Full-text
DN 116:44112
TI **Multilayer metal** sheets for laminar batteries and manufacture of the batteries
IN Hasuda, Yoshiaki; Horie, Toshio; Ishizawa, Maki
PA Nippon Telegraph and Telephone Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03163756	A	19910715	JP 1989-299865	19891120
	JP 2504851	B2	19960605		
PRAI	JP 1989-299865		19891120		

AB The sheets, for use as collectors for sealed laminar batteries having cathodes and **anodes** on the same side of substrate films and separated from each other by an electrolyte, are coated with an epoxy resin layer and ≥1 layers of maleic anhydride-containing chlorinated **polyethylene**, optionally mixed with other chlorinated polymers. The batteries are prepared by coating the metal sheets with an epoxy resin, applying ≥1 layers of the chlorinated **polyethylene**

on the coated sheets, and hot pressing the sheets to the substrate films. The sheets have strong bonding with the substrate films.

IC ICM H01M004-64
ICS H01M002-02; H01M004-66; H01M010-12
CC 52-2 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 42
ST battery **electrode** collector epoxy coating; chlorinated **polyethylene** coating **electrode** collector; maleated **polyethylene** coating **electrode** collector
IT Epoxy resins, uses
RL: USES (Uses)
(coatings containing layers of, **electrode** current collectors with, lead, for laminar batteries)
IT Coating materials
(epoxy and maleated chlorinated **polyethylene**, multilayer, lead current collectors with, for laminar batteries)
IT Batteries, primary
(laminar, manufacture of, lead current collectors with **multilayer polymer** coatings for)
IT **Electrodes**
(battery, current collectors for, lead, **multilayer polymer**-coated)
IT 9002-88-4D, **Polyethylene**, chlorinated, maleic anhydride-containing
RL: USES (Uses)
(coatings containing layers of, **electrode** current collectors with, lead, for laminar batteries)
IT 24937-78-8D, **Ethylene-vinyl** acetate copolymer, chlorinated
RL: USES (Uses)
(coatings containing, **electrode** current collectors with, lead, for laminar batteries)
IT 7439-92-1, Lead, uses
RL: USES (Uses)
(**electrode** current collectors, **multilayer polymer** coatings for, in laminar batteries)

L56 ANSWER 23 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1990:80964 HCAPLUS Full-text
DN 112:80964
TI Design and optical modulation of electrochromic windows
AU Dao, Le H.; Nguyen, My T.
CS Lab. Rech. Mater. Av., Inst. Natl. Rech. Sci., Varennes, QC, J0L 2P0, Can.
SO Proceedings of the Intersociety Energy Conversion Engineering Conference (1989), 24th(Vol. 4), 1737-41
CODEN: PIECDE; ISSN: 0146-955X
DT Journal
LA English
AB Electrochromic smart windows were fabricated using **anodic** and cathodic **layers** of **metal** oxides and conducting polymers and ionically conductive polymer electrolyte layers, deposited by electrochem. polymerization and solution casting. Prototype structures include: ITO/polyaniline (I)/PEO/WO3/ITO; SnO2/blue I/poly(2-acrylamido-2- methylpropanesulfonate)/WO3/SnO2, ITO/I/poly(ethyleneimine)/WO3-MO3/ITO; and ITO/I/poly(ethylene glycol methacrylate)-poly(ethylene glycol diacrylate)/WO3/ITO. The transmittance of the all solid-state devices can be controlled within 10-80%, by applying voltage between the bleached state and the colored state.
CC 52-3 (**Electrochemical**, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 73

ST electrochromic smart window conducting polymer; polyaniline ITO metal
oxide electrochromic window; polyacrylsulfonate polyethyleneimine
electrochromic window; **polyethylene** glycol acrylate
electrochromic window; indium tin oxide electrochromic window
IT Electrochromic materials
(conducting polymer and metal oxides, preparation and properties of, for
smart windows)
IT Polyamines
RL: PREP (Preparation)
(ethylenimine, electrolytes, electrochromic window containing, preparation
and
performance of)
IT Electric conductors
(polymeric, electrochromic window containing layer of, manufacture and
performance of)
IT Light
(transmission of, by conducting polymer-**metal** oxide
electrochromic **layers**, voltage cycling effect on)
IT Windows
(variable-transparency, electrochromic, conducting **polymer-**
metal oxide **multilayer**, manufacture and performance of)
IT 25233-30-1P, Polyaniline
RL: PREP (Preparation)
(electrochromic window containing layer of oxidized and reduced,
preparation and
performance of)
IT 1314-35-8, Tungsten oxide (WO3), uses and miscellaneous 11098-99-0,
Molybdenum oxide 18282-10-5, Tin oxide (SnO2) 27119-07-9,
Poly(2-acrylamido-2-methylpropanesulfonic acid) 37275-78-8, Poly(vinyl
alcohol phosphate) 50926-11-9, ITO
RL: USES (Uses)
(electrochromic window containing, preparation and performance of)
IT 7791-03-9P, Lithium perchlorate (LiClO4) 33454-82-9P
RL: PREP (Preparation)
(electrolytes of polymer and, electrochromic window containing, preparation
and
performance of)
IT 108-32-7P, Propylene carbonate 7439-93-2DP, Lithium, PEO complexes
9002-98-6P, Poly(ethylenimine) 25322-68-3DP, PEO, Li complexes
108927-94-2P
RL: PREP (Preparation)
(electrolytes, electrochromic window containing, preparation and
performance of)

L56 ANSWER 24 OF 24 HCAPLUS COPYRIGHT 2007 ACS on STN
AN 1983:188000 HCAPLUS Full-text
DN 98:188000
TI Formation of **bilayer metal polymer-**
polymer coatings
AU Ul'berg, Z. R.; Deinega, Yu. F.; Podol'skaya, V. I.; Nizhnik, Yu. V.;
Dvornichenko, G. L.
CS Inst. Kolloidn. Khim. Khim. Vody im. Dumanskogo, Kiev, USSR
SO Ukrainskii Khimicheskii Zhurnal (Russian Edition) (1983), 49(2), 168-73
CODEN: UKZHAU; ISSN: 0041-6045
DT Journal
LA Russian
AB The mechanism was studied of the formation of metal-polymer-polymer coatings,
especially the characteristics of occurrence of electrochem. reactions on
metal-polymer **electrodes** and their role in forming composite coatings. The
electrophoretic deposition of finely divided epoxide (E-41, E-30) and

polyester (**PE**-943B) oligomers on metal-polymer **electrodes** containing these polymers and colloidal Cu particles was studied. The metal-polymer **electrodes** were formed by codeposition of polymer and metal particles according to an electrophoretic-electrochem. method. Polarization curves were plotted with a potential scanning rate of 5 mV/s on a potentiostat, and i-τ curves were plotted under potentiostatic conditions. The corrosion resistance of 2-layer coatings in a chamber with 100% humidity at 40° amts. to 38 days, while 1-layer coatings last 18 days. The 2-layer coatings with prime coats, containing 40-60% Cu, have improved elec. strength.

CC 72-8 (Electrochemistry)
Section cross-reference(s): 38, 42, 66

ST formation **bilayer metal polymer** coating;
electrolytic polarization bilayer coating; copper **polymer bilayer** coating

IT Coating process
(of **bilayer metal polymer-polymer**)

IT Electrolytic polarization
(of copper and metal-polymer **electrodes** in potassium chloride solution)

IT Coating process
(electrophoretic, of epoxides and **polyesters**)

IT Alkyd resins
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(epoxy, electrophoretic deposition of, on metal-polymer **electrodes**)

IT 7447-40-7, properties
RL: PRP (Properties)
(electrolytic polarization of copper and metal-polymer **electrodes** in solns. containing)

IT 7440-50-8, properties
RL: PRP (Properties)
(electrolytic polarization of, in potassium chloride solution)

IT 25038-59-9, uses and miscellaneous 25068-38-6
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(electrophoretic deposition of, on metal-polymer **electrodes**)

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